

Survey Name	Survey ID	Study Objective	River Mile(s)	Begin Date	End Date	Number of Samples	Sample Intervals (cm)	Composite (Y/N)	Dredged (Y/N)	Conv.	Metals	Butyltins	SVOCS	PCBs	Pest.	PCB Cong.	Dioxin/Furan	VOCs	Other	Comment	Reference
2005 Portland District O&M Sediment Characterization	WLCDRD05	Dredged Material Characterization	2 - 11.7	4/28/2005	5/27/2005	82 surface, 72 subsurface	0-30 cm, up to 421 cm	N	N	X	X	X	X	X	X			X	TPH - gasoline, #2 diesel, motor oil	Tetra Tech, 200X	
ARCO Terminal 22T	WLCAPI99	Forensic study of PAH sources to sediments adjacent to Arco/BP's Terminal 22T	5	9/1/1999	9/1/1999	17 surface sediment	0-10 cm	N	N	X	X		X					X			SECOR, 2002
ATOFINA Phase2 Stage1/2 In-River Investigation	WLCEAF02	Phase II Stage 1 & 2 In-River Groundwater and Sediment Investigation Report	8	6/3/2002	3/10/2003	211 subsurface sediment	up to 1305 cm	N	N	X						X				174 samples field screened for 4,4'-DDT, 40 samples lab tested for pesticides	Integral Consulting, 2003
Baseline Sediment Riedel	RIEDEL97	Baseline sediment assessment off Riedel's Portland Yard Site	8	8/12/1997	8/13/1997	19 subsurface sediment, 8 surface sediment	surface 0-15 cm, subsurface to 460 cm	N	N	X	X	X	X							limited SVOCs analyses	no source document
Berth 311 Dredge Data	PSBTH311	Dredged material characterization	9	9/9/1990	4/8/1992	8 subsurface sediment, 14 surface sediment	surface 0-20 cm, subsurface up to 40 cm	Y - 5 samples	Y - 4 locations (3, 4, 5, 6)	X	X	X	X	X	X			X	butyltins analyzed in composite samples only	Port of Portland, 1992	
Cargill Irving Elevator Permit Applications	WLCCIF01	Dredged material characterization	12	6/29/2001	6/29/2001	5 subsurface, 1 subsurface porewater	up to 109 cm	Y - 1 sample	Y	X	X	X	X	X	X					porewater analyzed for butyltins	Harding ESE, 2001
Characterization of Sediment and Proposed Dredge Depth, Fire Bureau Station 6 Maintenance Dredging Project	WLCFBD03	Dredged Material Characterization	9.5	4/17/2003	6/29/2004	14 subsurface + 2 splits	up to 396 cm	Y	Y	X	X	X	X	X	X						City of Portland, 2005
Characterization of Stormwater Outfalls	WRSTRM94	Characterization of sediments off stormwater discharges	5, 9, 10, 12, 14	7/15/1994	7/19/1994	25 surface sediment, 4 subsurface sediment	up to 10 cm	N	N	X	X		X	X	X			X			Hartman & Associates, 1995
Chevron Dredging Permit Application	WLCCPF01	Dredged material characterization	8	6/6/2001	6/7/2001	15 subsurface sediment	up to 244 cm	N	Y	X	X	X	X	X	X			X	X	petroleum analyzed	PNG Environmental, 2001
City outfall pilot project	WLCOFH02	Sediment quality study off Outfalls M1 and 18 (9 sediment grabs taken at each outfall)	9	8/21/2002	8/23/2002	18 surface sediment	0-15 cm	N	N	X	X		X	X	X			X		herbicides and petroleum also analyzed	City of Portland, 2002
City Outfall Source Control Investigation	WLCOFJ02	Source Control Investigation	5-10	10/14/2002	10/23/2002	84 surface sediment	0-15 cm	N	N	X	X		X		X	X		X	diesel, lube oil	City of Portland, 2004	
Col Wil Channel Deepening Reconnaissance Study	COLWIL90	Sediment quality reconnaissance study for proposed deepening of the navigation channel, primarily focused on extent of dioxins and furans	5, 7-10, 12	5/3/1990	5/18/1990	13 subsurface sediment	up to 142 cm	N	Y - 2 locations (WRGC06, WRGC09)	X											USACE, 1990
Columbia Basin Contaminant Data	CLBC8494*	DEQ (1994) - Study to determine presence and effects of toxic pollutants to RM 161; Curtis et al. (1993) - Study to determine extent of TCDD/TCDF to RM 314	11, 12	1/1/1984	1/1/1994	DEQ (1994) - 6 surface below RM 27 and only 1 (RM12) since 1990; Curtis et al. (1993) - 1 surface at RM 11	0-15 cm	N	N	X			X	X		X	X			DEQ (1992) - conv., SVOCs, PCB congeners, pesticides; Curtis et al (1993) - dioxin/furans, conv.	EPA, 1996
Corps Dredged Material O&M Characterization	WLCDRI03	Dredged Material Characterization	3, 8-10, 15, 23	9/18/2003	9/25/2003	19 subsurface composites, 2 surface reference	up to 305 cm	Y	N	X	X	X	X	X	X						Hart Crowser, 2004
CRCD - Willamette River Channel Deepening	WLR0797	Dredged material characterization supporting proposed channel deepening project	1-9, 11, 12	7/22/1997	7/25/1997	18 surface sediment, 17 surface porewater, 50 subsurface sediment, and 1 subsurface porewater	surface up to 25 cm, subsurface up to 609 cm	Y- 3 samples	Y - WRGC30 and WRGC31	X	X	X	X	X						porewater analyzed for butyltins	USACE, 1999
Elf Atochem 1999 Willamette River	WLREL99	Sediment investigation of Atofina shoreline	8	11/23/1998	1/20/1999	15 subsurface sediment, 13 surface sediment	surface 0-10 cm, up to 90 cm	N	N	X			X		X			X			Elf Atochem, 1999
Focused ESA Riedel	RIEDEL96	Environmental site assessment of Riedel's Portland Yard Site	8	9/3/1996	9/3/1996	7 subsurface sediment	up to 45 cm	N	N	X	X	X		X							Maul Foster & Alongi, 1996
Gasco EE/CA	WLCGSG04	Early Action Characterization	6.5	7/19/2004	9/9/2005	16 subsurface sediment	up to 610 cm	N	N	X	X		X		X		X	X	TPH - diesel, residual range; cyanide	Anchor, 2005	
Gasco Phase I Remedial Investigation	WLCGSA96	Phase I remedial investigation of Gasco Site, including a summary of existing information	7	1/23/1996	1/24/1996	10 subsurface sediment, 12 surface sediment	surface 0-15 cm, subsurface to 289 cm	N	N	X	X		X				X	X	SVOCs limited to PAHs, petroleum analyzed	Hahn and Associates, 1998	
Gasco Source Control Evaluation	WLCGSD01	Characterization of nearshore conditions to validate groundwater modeling predictions	7	4/10/2001	4/11/2001	18 subsurface sediment, 9 surface sediment	surface 0-10 cm, subsurface to 40 cm	N	N	X	X		X				X		SVOCs limited to PAHs	Anchor Environmental, 2001	
GATX Linnton Terminal ESA	WLCGXV99	Environmental site assessment	5	10/8/1999	10/8/1999	4 surface sediment, 4 subsurface sediment	surface 0-10 cm, subsurface to 40 cm	N	N	X	X		X	X	X		X		VOCs not analyzed in all samples	KHM Environmental Management, 1999	
GATX Linnton Terminal RI	WLCGXB02	Kinder Morgan Linnton Facility Remedial Investigation	5	2/5/2002	2/7/2002	2 surface sediment	0-15 cm	N	N	X			X					X	X	petroleum analyzed	KHM Environmental Management, 2002
Goldendale Aluminum Phase 1	WLCGAF00	Dredged material characterization	11	6/12/2000	6/12/2000	5 surface sediment, 1 reference surface sediment	0-30 cm	N	Y	X	X	X	X	X	X			X			CH2M Hill, 2001
Goldendale Aluminum Phase 2	WLCGAL00	Dredged material characterization	11	12/21/2000	12/21/2000	4 surface sediment	0-30 cm	N	Y	X			X								CH2M Hill, 2001
G-P Linnton Site Preliminary Assessment	WLCGPE00	Preliminary Assessment of G-P Linnton Site	4	5/16/2000	5/17/2000	13 surface sediment	0-30 cm	N	N	X	X		X					X		SVOCs limited to PAHs and phenols, petroleum analyzed	CH2M Hill, 2000a
Gunderson Area 2 Sandy Beach	WLCGNG03	Gunderson, Inc. Area 2 - Sandy Beach Area Upland Source Evaluation	9	7/8/2003	7/8/2003	4 surface sediment	0-15 cm	N	N	X	X	X	X	X			X	X	petroleum analyzed	Kleinfelder, 2004	
International Terminal Sediment Data Report	WLCTIC03	International Terminal Sediment Data Report	4, 5	3/11/2003	3/13/2003	20 subsurface sediment	up to 518 cm	N	N	X	X	X	X	X	X						Floyd Snider McCarthy, 2003
International Terminals Sediment Sampling Event	WLCTIH98	International Terminals Sediment Sampling Event	4	8/18/1998	8/18/1998	5 surface sediment	0-15 cm	N	N	X	X	X	X		X						Schnitzer Steel Industries, 1998
International Terminals Slip Repair	WLCTIA96	International Terminals Slip Repair	4	1/26/1996	1/26/1996	2 surface sediment	0-30 cm	N	N									X	X	petroleum analyzed	Schnitzer Steel Industries, 1996
MarCom Expanded Preliminary Assessment	WLCTMCB02	Expanded Preliminary Assessment of MarCom property	6	2/8/2002	2/8/2002	3 surface sediment	0-15 cm	N	N		X	X	X							SVOCs limited to PAHs	Parametrix, 2002
Marine Finance Expanded Preliminary Assessment Data Report	WLCTMFH00	Expanded Preliminary Assessment of Marine Finance Site	6	8/8/2000	8/9/2000	3 subsurface sediment, 6 surface sediment	surface 0-20 cm; subsurface to 66 cm	N	N	X	X	X	X	X						petroleum analyzed	Jacobs Engineering, 2000a
McCormick & Baxter RI Phase 1	MBCREOS1	Phase I remedial investigation of McCormick & Baxter Creosoting Co.	7	9/21/1990	10/17/1990	16 subsurface sediment, 62 surface sediment, 1 upriver reference surface	surface 0-6 cm; subsurface up to 509 cm	Y - 6 surface (TR1-TR6)	Y - 2 locations (SC49, SC85)	X	X		X		X					pesticides and dioxins/furans not analyzed in all samples; SVOCs sometimes limited to PAHs	PTI, 1992
McCormick & Baxter RI Phase 2	MBCREOS2	Phase II remedial investigation of McCormick & Baxter Creosoting Co.	7	9/1/1991	1/30/1992	18 subsurface sediment, 6 surface sediment, 1 upriver reference surface	surface 0-6 cm; subsurface up to 2377 cm	N	N	X	X		X					X		dioxins/furans not analyzed in all samples	PTI, 1992
McCormick & Baxter RI Phase 3	WLcmbj99	Phase III remedial investigation of McCormick & Baxter Creosoting Co.	8	10/1/1999	10/1/1999	44 site and 4 upriver reference surface sediment	0-15 cm	N	N	X	X		X					X		SVOCs limited to PAHs and phenols; dioxins/furans not analyzed in all samples	Ecology & Environment, 2001
McCormick & Baxter RI Phase 4	WLcmiba01	Phase IV remedial investigation of McCormick & Baxter Creosoting Co.	8	1/5/2001	2/5/2001	32 subsurface sediment, 1 upriver reference surface sediment	0-38 cm	N	N	X			X							SVOCs limited to PAHs and phenols	Ecology & Environment, 2001
Oregon Steel Mills Pre-Remedial Investigation Field Activities Data Report	WLcosj00	Pre-remedial investigation; sediments collected off outfalls to investigate storm water as potential pathway	2, 3	10/10/2000	10/11/2000	1 subsurface sediment, 15 surface sediment	surface 0-10 or 0-30 cm, subsurface 0-60	N	N	X	X		X	X				X		petroleum analyzed	Exponent, 2001
Organochlorine and PAH by SPMD	WLcwqh99	Investigation of the Distribution of Organochlorine and Polycyclic Aromatic Hydrocarbon Compounds Using SPMD	12	8/6/1997	2/18/1998	1 water SPMD, 1 surface sediment	0-3 cm	N	N				X		X	X	X	X			USGS, 1999
PAH in surface sediments	WLcasf97	Assessment of the nature of PAH in surface sediments along the southwestern																			

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Port of Portland T4 RI	WLCT4J98	Remedial investigation of Terminal 4	5	10/12/1998	10/15/1998	18 subsurface sediment, 44 surface sediment, 2 surface reference sediment	surface 0-10 cm, subsurface up to 128 cm	N	N	X	X		X		X		X	X		not all samples analyzed for metals or VOCs, petroleum analyzed	Hart Crowser, 1999a	
Portland Harbor Sediment Investigation	WR-WSI98	EPA's sediment inspection	4 - 10	9/17/1997	2/2/1999	158 surface sediment, 28 surface porewater, 39 subsurface sediment	surface 0-10 cm, subsurface 0-90 cm	Y - 12 samples	Y - SD029, SD032	X	X	X	X	X	X	X	X	X		some samples analyzed for herbicides, dioxin/furans, PCB congeners, butyltins; porewater analyzed for butyltins and metals	Roy F. Weston, 1998	
Portland Shipyard Env. Audit	PSYD&M97	Sediment investigation to identify chemicals in the vicinity of the shipyard and their distribution	9	11/26/1997	1/22/1998	4 subsurface sediment, 8 surface	surface 0-10 cm; subsurface up to 304 cm	N	N	X	X	X	X	X				X		butyltins and VOCs not analyzed in all samples; SVOCs sometimes limited to PAHs and phthalates	Dames & Moore, 1998	
Portland Shipyard Sed. Inv.	PSYSEA98	Sediment investigation to characterize distribution of chemicals in surface and subsurface sediments, supporting property transfer	8, 9, 10, 11	3/31/1998	4/16/1998	65 subsurface sediment, 60 surface sediment, 61 surface porewater, 3 surface reference	surface 0-10 cm, subsurface to 490 cm	N	N	X	X	X	X	X	X		X		butyltins, pesticides, VOCs not analyzed in all samples; porewater analyzed for butyltins	SEA 1998		
PSY DD3 Post-Dredge Data	PSYDD3	Post-dredged material characterization	9	12/15/1994	12/15/1994	3 subsurface sediment, 8 surface sediment	surface 0-12 cm; subsurface up to 50 cm	N	N	X	X	X	X	X	X		X		Subsurface analyzed for conventionals, metals, and SVOCs only	Hartman & Associates, 1995		
PSY DD4 Post-Dredge Data	PSYDD4	Post-dredged material characterization	8, 9	12/15/1992	12/15/1992	9 surface sediment	0-15 cm	N	N	X	X	X	X	X	X		X				Hartman & Associates, 1995	
Rhône-Poulenc St Helens Road Facility Q1,95	WLCRPB95	Sampling associated with quarterly monitoring at Rhône-Poulenc discharge point	7, 8	2/1/1995	2/1/1995	5 surface sediment	0-15 cm	N	N	X	X		X		X	X	X		herbicides also analyzed	Woodward-Clyde Consultants, 1995		
Rose Festival Fleet Moorage	WLCRFE95	Dredged material characterization	13	5/11/1995	5/11/1995	5 surface sediment	0-15 cm	N	Y	X	X	X	X	X	X				SVOCs limited to PAHs	AGI Technologies, 1995		
Ross Island Lagoon Baseline	WLCRIJ99	Baseline sediments investigation of Ross Island Lagoon	16	10/26/1999	10/28/1999	4 surface porewater, 12 surface sediment	0-10 cm	Y - 1 sample	N	X	X	X	X	X	X				porewater analyzed for butyltins	Landau Associates, 2000a		
Ross Island Phase I (Ross Island Sand & Gravel)	WLCRIV99	Phase I remedial investigation of Ross Island Lagoon	15, 16	10/7/1999	10/28/1999	4 surface sediment, 41 subsurface sediment	surface 0-10cm, subsurface up to 79 cm	N	N	X	X	X	X	X	X		X	X	petroleum analyzed in subsurface only	Landau Associates, 2000c		
Ross Island Phase I (Port)	WLCRIL99	Phase I remedial investigation of Ross Island Lagoon	15, 16	11/2/1999	4/28/2000	6 subsurface porewater, 20 subsurface sediment, 38 surface porewater, 41 surface sediment, 4 surface reference sediment	surface 0-10 cm, subsurface up to 1798 cm	Y - 1 sample	N	X	X	X	X	X	X		X	X	porewater analyzed for butyltins, petroleum analyzed	Hart Crowser, 2000		
Sediment Characterization Local Sponsors' Berths (conducted with Corps)	WLCT0I98	Dredged material characterization of Port of Portland berths	2, 5-8, 10-12	9/14/1998	9/14/1998	7 subsurface porewater, 7 subsurface sediment, 12 surface porewater, 12 surface sediment	surface 0-10 cm, subsurface up to 152 cm	Y - 6 subsurface	N	X	X	X	X	X	X					porewater analyzed for butyltins	Hart Crowser, 1999c	
Surface Water, Sediment, and Groundwater Sampling Report	WLCMBI02	Surface Water, Sediment, and Groundwater Sampling Report, McCormick & Baxter	7, 8	9/5/2002	9/26/2002	41 water grabs, 19 water SPMD, 11 subsurface sediment	30-35 cm	N	N		X		X								Ecology & Environment, 2003	
T1 1992 Sediment Characterization Results	WLCT1L91	Dredged material characterization	11	12/17/1991	12/17/1991	2 subsurface sediment	lower depth unknown	N	Y	X			X	X	X						Port of Portland, 2000a	
T1 South Sediment Study	WLCT1F00	Baseline sediment investigation associated with potential lease arrangement	11, 12	6/22/2000	6/22/2000	9 surface porewater, 9 surface sediment	0-10 cm	N	N	X	X	X	X	X	X			X		porewater analyzed for butyltins	SEA, 2000	
T1/T2/T5 Sediment Characterization Study	WLCT0K96	Dredged material characterization	2, 10, 11	11/12/1996	11/13/1996	7 subsurface sediment, 1 surface sediment	surface 0-15 cm, subsurface up to 121 cm	Y - 4 subsurface	Y	X	X	X	X	X	X					SVOCs limited to PAHs and phenols	Hart Crowser, 1997	
T2 Berth 203 Project	WLRPT294	Dredged material characterization	10	3/15/1994	5/20/1994	1 surface and 2 subsurface sediment	lower limit undefined	Y - 3 samples	Y	X	X	X	X	X	X			X		one samples analyzed for conventionals, miscellaneous SVOCs and VOCs	CAS, 1994	
T2/T4 Sediment Study	PPTLDT24	Dredged material characterization	6, 10	9/15/1998	10/15/1998	3 subsurface porewater, 3 subsurface sediment	0-91 cm	Y	Y	X	X	X	X	X	X						Hart Crowser, 1999a, 1999b	
T2/T5 2001 Dredge Characterization Study	WLCT0F01	Dredged material characterization	2, 10	6/27/2001	6/29/2001	4 subsurface porewater, 7 subsurface sediment	up to 182 cm	Y	Y	X	X	X	X	X	X					porewater analyzed for butyltins	Hart Crowser, 2001a	
T4 Berth 408 Maintenance Dredging	WLCT4L93	Dredged material characterization	5	12/7/1993	12/7/1993	3 subsurface sediment	0-66 cm	N	Y	X	X	X	X	X	X						Port of Portland, 1994a	
T4 Berth 416 1997 Sediment Characterization Study	WLCT4J97	Dredged material characterization	5, 6	10/23/1997	10/24/1997	4 subsurface sediment and 4 subsurface porewater	up to 182 cm	Y - 1 sample	Y	X	X	X	X	X	X					porewater analyzed for butyltins	Hart Crowser, 1998	
T4 Berths 410,411 Maintenance Dredging	WLCT4E97	Marine Terminal 4 Berths 410, 411 Maintenance Dredging	5	5/6/1997	5/6/1997	3 subsurface sediment	up to 152 cm	N	Y	X	X	X	X	X	X					porewater analyzed for butyltins	Hart Crowser, 1997	
T4 Slip 1 Berth 401 Sediment Characterization	WLCT4K99	Dredged material characterization	5	11/18/1999	11/19/1999	19 surface sediment	0-10 cm	N	N	X	X		X	X	X					nine samples analyzed for conventionals only	Port of Portland, 2000b	
T4 Slip 3, Berth 410 Dredge Material	WLCT4L01	Marine Terminal 4 Slip3 Dredge Material Characterization Study	5	12/11/2001	12/13/2001	9 subsurface sediment	up to 213 cm	Y	Y	X	X		X	X	X						Hart Crowser, 2002	
T5 1999 Berths 501-503 Sediment Characterization Study	WLCT5K99	Dredged material characterization	1, 2	11/22/1999	11/22/1999	5 subsurface sediment and 5 subsurface porewater	up to 182 cm	Y - 2 samples	Y	X	X	X	X	X	X						porewater analyzed for butyltins	Port of Portland, 2002
Terminal 4 Early Action EE/CA Report	WLCT4C04	Early Action Characterization	4.5	3/3/2003	5/20/2004	5 sediment trap, 43 subsurface sediment	up to 671 cm	Y	N	X	X		X	X	X			X		TPH - gasoline, diesel, residual range	BBL, 2005	
TOSCO 1999 Sediment Sampling Results	TOSCO99	Dredged material characterization	8	1/20/1999	1/22/1999	4 subsurface sediment, 1 surface reference	up to 304 cm	Y	Y	X	X		X	X	X						Exponent, 1999	
UP RR Albina Yard Expanded Preliminary Assessment Data Report	WLCAHY00	Expanded Preliminary Assessment of UPRR's Albina Yard	11, 12	8/9/2000	8/17/2000	3 subsurface sediment, 6 surface sediment	surface 0-20 cm; subsurface to 69 cm	N	N	X	X	X	X	X	X					petroleum analyzed	Jacobs Engineering, 2000b	
US Moorings June 1994	MOOR0694	Sediment investigation of US Moorings Site	7	6/14/1994	6/14/1994	31 surface sediment	0-13 cm	Y - 6 samples	N	X	X	X	X	X	X						USACE, 1999	
US Moorings May 1995	MOOR0595	Sediment investigation of US Moorings Site	7	5/16/1995	5/17/1995	43 subsurface sediment, 1 surface sediment	up to 351 cm	N	N	X	X	X	X		X		X		dioxin/furans and butyltins not analyzed in all samples	USACE, 1998		
US Moorings Preliminary Assessment Sampling	MOOR1294	Preliminary Assessment of US Moorings Site	7	12/20/1994	12/20/1994	9 surface sediment	0-15 cm	N	N	X	X										USACE, 1998	
US Moorings RI Sediment Investigation	WLCMRI02	US Moorings RI	6,7	9/10/2002	9/11/2002	2 surface, 3 subsurface sediment	0-30, 0-90 cm	Y	N	X	X	X	X	X	X					TPH - diesel, motor oil	Corps, 2002	
USGS - Bonn	WBWRIR98	An occurrence and distribution study of dioxins/furans in the Willamette River Basin conducted from 1992 to 1995	5, 13	1/1/1992	1/1/1995	2 surface sediment	0-2 cm	N	N	X								X			USGS, 1998	
Willamette 1992 Portland Harbor	WLR0692	Dredged material characterization	9, 10, 11	6/3/1992	6/3/1992	6 subsurface sediment	up to 240 cm	N	N	X	X		X	X	X						USACE, 1998	
Willamette 1996 Portland Harbor	WLR1196	Dredged material characterization	9, 10, 11	11/13/1996	11/14/1996	2 surface sediment, 4 subsurface sediment	surface 0-13 cm, subsurface up to 244 cm	N	Y	X	X	X	X	X	X						USACE, 1998	
Willamette April Sediment Quality Evaluation	WLR0499	Dredged material characterization	3, 9, 10	4/29/1999	4/29/1999	11 subsurface sediment and 3 porewater	up to 434 cm	N	N	X	X	X	X	X	X		X		all samples also analyzed for herbicides; 2 samples analyzed for dioxins/furans; porewater analyzed for butyltins	USACE, 2000		
Willamette Cove SA	WLCWCJ95	Supplemental Environmental Site Assessment of St. Johns Riverfront Property, Willamette Cove	5	10/19/1995	10/19/1995	3 surface sediment	0-15 cm	Y	N		X											

Lower Willamette Group

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Willamette Ref Area P1	WLLRSH01	Phase I reference area reconnaissance study	16, 17, 18, 19, 24	8/29/2001	8/29/2001	9 surface sediment	0-10 cm	N	N	X				X	X				X	Petroleum also analyzed	Hart Crowser, 2001b
Willamette Ref Area P2	WLLRSI01	Phase II reference area reconnaissance study	16, 19, 23, 24	9/17/2001	9/17/2001	8 surface sediment	0-10 cm or 0-30 cm	N	N	X	X	X	X	X	X					five samples analyzed for conventionals only; porewater analyzed for butyltins	Hart Crowser, 2002
Willamette River 1998 Data	WRD&M98	Sediment investigation to identify chemicals in the vicinity of the shipyard and their distribution	7, 8, 9, 10, 11	1/19/1998	1/21/1998	12 surface sediment	0-10 cm	N	N	X	X	X	X	X						SVOCs limited to PAHs and phthalates, butyltins analyzed in 7 samples	Dames & Moore, 1998
Willbridge 60-in outfall	WLCWTI00	Remedial investigation of sediments at 60-inch outfall location, Willbridge Terminal	8	9/21/2000	9/22/2000	13 subsurface sediment	up to 229 cm	N	N	X	X		X					X	X	Only one sample analyzed for metals, SVOCs, and VOCs, petroleum analyzed	KHM Environmental Management, 2001
Willbridge Terminal Facility RI	WLRWTF98	Remedial investigation of Willbridge Terminal	8	12/17/1998	12/18/1998	15 surface sediment	0-12.7 cm	N	N	X	X		X		X			X		SVOCs sometimes limited to PAHs	KHM Environmental Management, 2000
Zidell Waterfront Property RI/FS	WLCZDI00	Remedial investigation/feasibility study	14	7/20/1995	9/29/2000	4 porewater, 44 surface, 15 subsurface	up to 320 cm	N	N	X	X	X	X	X				X	X	diesel, motor oil, gasoline, heavy oil, Jet Fuel A, JP-4 jet fuel, kerosene, lube oil, mineral spirits, naphtha distillate	MFA, 2001

* Includes Curtis et al. 1993, Willamette River Toxics Study (DEQ 1994)

Table 4-1. Historical Sediment, Tissue, and Willamette River Water Chemical Investigations in Portland Harbor.

LWG Survey Code	Avocet QA or QA2	Data Useability Category	Rationale for Category 2	Survey Name	Begin Date	End Date
Sediment						
WLCGSG04		2	Data pending validation in 2006	Gasco EE/CA	7/19/2004	9/9/2005
WLCDRD05		1,2	Se - blank contamination, Sb - low bias, PAH/PCB Aroclors - MS exceedances, Pest./SVOCs - LCS, MS/MSD Exceedances, TOC - HT exceedances, TPH - blank contamination	2005 Portland District O&M Sediment Characterization	4/28/2005	5/27/2005
WLCFB03		2	could not verify HT compliance	Fire Bureau Station 6 Maintenance Dredging Project	4/17/2003	6/29/2004
WLCT4C04		1,2	Cn - poor analyte recovery	Terminal 4 EE/CA	3/3/2003	5/20/2004
WLCDRI03	Y	1	--	Willamette Navigation Channel O&M Sediment Characterization	9/18/2003	9/25/2003
WLTASE03	Y	1	--	ODHS/EPA/ATSDR Fish Contaminant Study	5/22/2003	8/27/2003
WLCGNG03		1	--	Gunderson Area 2 Sandy Beach	7/8/2003	7/8/2003
WLCITC03		1	--	International Terminal Sediment Data Report	3/11/2003	3/13/2003
WLCEAF02		1,2	4,4'-DDT - field screening	ATOFINA Phase2 Stage1/2 In-River Investigation	6/3/2002	3/10/2003
WLCOFJ02	Y	1	--	City Outfall Sediment Investigation	10/14/2002	10/23/2002
WLCMBI02		1	--	Surface Water, Sediment, and Groundwater Sampling Report	9/5/2002	9/26/2002
WLCMRI02		1	--	US Moorings 2002 Sediment Investigation	9/10/2002	9/11/2002
WLCOFH02	Y	1,2	grain size - no replicates for M-1 or 18; no	City of Portland Outfall Pilot Project, Outfall 18 and Outfall M-1	8/21/2002	8/23/2002
WLCMCB02		1	--	MarCom Expanded Preliminary Assessment	2/8/2002	2/8/2002
WLCGXB02		1	--	GATX Linnton Terminal RI	2/5/2002	2/7/2002
WLCT4L01		1	--	T4 Slip 3, Berth 410 Dredge Material	12/11/2001	12/13/2001
WLLRSI01	Y	1	--	Willamette Reference Area Study (Phase 2)	9/17/2001	9/17/2001
WLLRSI01	--	1	--	Willamette Reference Area Study (Phase 2)	9/17/2001	9/17/2001
WLLRSH01		1,2	grain size - no COC, no replicates	Willamette River Reference Area Study (Phase I)	8/29/2001	8/29/2001
WLCCIF01		1,2	grain size - no COC, holding time unknown, no replicates	Cargill Irving Elevator Permit Applications	6/29/2001	6/29/2001
WLCT0F01		1	--	Terminal 2 and Terminal 5 2001 Dredge Characterization Study	6/27/2001	6/29/2001
WLCCPF01		1	--	Chevron Dredging Permit Application	6/6/2001	6/7/2001
WLCGSD01	Y	1	--	Gasco Source Control Evaluation	4/10/2001	4/11/2001
WLCMBA01		1	--	McCormick & Baxter RI Phase 4	1/5/2001	2/5/2001
WLCZDI00		2	no laboratory back-up or DV reports	Zidell Waterfront Property RI/FS	7/20/1995	9/29/2000
WLCGAL00		1	--	Goldendale Aluminum Dredge Phase 2	12/21/2000	12/21/2000
WLCOSJ00		1	--	Pre-Remedial Inv. Field Activities Data Report for Oregon Steel Mills	10/10/2000	10/11/2000
WLCWTI00		1	--	Revised 60-Inch Strom Sewer Interim Remedial Actions Report, Tosco	9/21/2000	9/22/2000
WLCAYH00		1	--	Union Pacific Railroad Albina Yard Expanded Preliminary Assess.	8/9/2000	8/17/2000
WLCMFH00		1	--	Marine Finance Expanded Preliminary Assessment Data Report	8/8/2000	8/9/2000
ORRORS00	--	2	methods unknown, no COC, holding time unknown, no precision or accuracy documentation	The Oregonian's River of Risk Series	7/1/2000	7/1/2000
WLCT1F00		1	--	T1 South Sediment Study	6/22/2000	6/22/2000
WLCGAF00		1	--	Goldendale Aluminum Dredge Phase 1	6/12/2000	6/12/2000
WLCGPE00		2	no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	G-P Linnton Site Preliminary Assessment	5/16/2000	5/17/2000
WLCRIL99		1	--	Ross Island Site Investigation (Hart Crowser)	11/2/1999	4/28/2000
WLR1199		1,2	metals & TOC - No precision or accuracy documentation from laboratory QC data	Willamette River Sediment Quality Evaluation - November	11/29/1999	11/29/1999
WLCT5K99		1,2	grain size - no replicates	1999, T5, Berths 501, 503 Sediment Characterization Study	11/22/1999	11/22/1999
WLCT4K99		2	laboratory unknown, methods unknown, no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	Port of Portland T4 - Slip 1 & Berth 401 Sediment Characterization	11/18/1999	11/19/1999
WLCRIJ99		1	--	Ross Island Lagoon Baseline	10/26/1999	10/28/1999
WLCRIV99	Y	1	--	Ross Island Phase 1 (Landau)	10/7/1999	10/28/1999
WLCGV99		1	--	Environmental Site Assessment GATX Terminals Corp.	10/8/1999	10/8/1999
WLCMBJ99		1	--	McCormick & Baxter RI Phase 3	10/1/1999	10/1/1999
WLCARI99		2	Lack of supporting documentation	Assessment of Nearshore Sediments, ARCO Terminal 22T	9/1/1999	9/1/1999

Table 4-1. Historical Sediment, Tissue, and Willamette River Water Chemical Investigations in Portland Harbor.

LWG Survey Code	Avocet QA or QA2	Data Useability Category	Rationale for Category 2	Survey Name	Begin Date	End Date
WLR0499		1,2	metals - no precision or accuracy documentation from laboratory QC data; TOC - no replicates	Willamette River Sediment Quality Evaluation - April	4/29/1999	4/29/1999
WR-WSI98	Y	1,2	chlorinated phenoxy herbicides - laboratory unknown, holding time unknown, no precision or accuracy documentation from laboratory QC	Portland Harbor Sediment Investigation	9/17/1997	2/2/1999
TOSCO99	Y	1	--	TOSCO Sediment Sampling Results 1999	1/20/1999	1/22/1999
WLREL99	Y	1	--	Elf Atochem Willamette River, 1999	11/23/1998	1/20/1999
WLRWTF98	Y	1	--	Willbridge Terminal Facility Remedial Investigation	12/17/1998	12/18/1998
WLCT4J98	Y	1	--	Port of Portland T4 RI	10/12/1998	10/15/1998
PPTLDT24	--	1	--	Sediment Study Marine Terminals 2 and 4	9/15/1998	10/15/1998
WLCT0I98	Y	1	--	Sed Char Local Sponsors of Columbia/Willamette Chan Deep	9/14/1998	9/14/1998
WLCITH98	--	1	--	International Terminals Sediment Sampling Event	8/18/1998	8/18/1998
PSYSEA98	Y	1	--	Portland Shipyard Sediment Investigation	3/31/1998	4/16/1998
WLCWQH99	--	2	QA/QC documentation not available	Organochlorine and PAH by SPMD	8/6/1997	2/18/1998
PSYD&M97	Y	1	--	Portland Shipyard Env. Audit	11/26/1997	1/22/1998
WRD&M98	Y	1	--	Willamette River, 1998 Data	1/19/1998	1/21/1998
WLCT4J97	--	1,2	grain size - laboratory unknown, no COC,	Port of Portland Terminal 4 Berth 416 1997 Sediment Characterization	10/23/1997	10/24/1997
RIEDEL97	Y	1	--	Baseline Sediment Assessment Riedel	8/12/1997	8/13/1997
WLR0797	Y	1,2	grain size & TVS - no COC, no replicates	CRCD - Willamette River Channel Deepening	7/22/1997	7/25/1997
WLCASF97	--	1	--	PAH in surface sediments	6/10/1997	6/12/1997
WLCT4E97	--	1	--	T4 Berths 410,411 Maintenance Dredging	5/6/1997	5/6/1997
DEQWQP97	--	2	methods unknown, no COC, holding time unknown, no precision or accuracy documentation	DEQ Water Quality Program - Mercury (Gene Foster per Avocet)	1/1/1997	1/1/1997
WLR1196	Y	1,2	grain size - no COC, no replicates	Lower Willamette Portland Harbor 1996	11/13/1996	11/14/1996
WLCT0K96	--	1	--	Port of Portland T1, T2, and T5 Sediment Characterization Study	11/12/1996	11/13/1996
RIEDEL96		2	no source document and no supporting QC data	Focused ESA Riedel	9/3/1996	9/3/1996
WLFL0496	Y	2	metals & SVOCs - no COC, no precision of accuracy documentation from laboratory QC data; grain size - methods unknown	Willamette Falls Locks 1996 Flood Deposits Sediment Quality Evaluation	4/18/1996	4/18/1996
WLCITA96	--	1,2	TPHs - units in wet weight	International Terminals Slip Repair	1/26/1996	1/26/1996
WLCGSA96	--	1	--	Gasco PI Remedial Investigation	1/23/1996	1/24/1996
WLCWCJ95	Y	1	--	Willamette Cove SA	10/19/1995	10/19/1995
MOOR0595	Y	1,2	grain size - method unknown	US Moorings May 1995	5/16/1995	5/17/1995
WLCRFE95	--	1,2	grain size - laboratory unknown, no COC, no replicates, holding time unknown	Rose Festival Fleet Moorage	5/11/1995	5/11/1995
CLWLTC94	--	2	no COC, holding time unknown, no	Columbia/Willamette	3/1/1994	4/30/1995
WLCRPB95	--	1	--	Rhône-Poulenc St Helens Road Facility Q1,95	2/1/1995	2/1/1995
WBWRIR98	--	2	dioxins/furans - method unknown, no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	USGS - Bonn	1/1/1992	1/1/1995
WBWRIR98	--	2	no COC, holding time unknown, no precision or accuracy documentation	USGS - Bonn	1/1/1992	1/1/1995
MOOR1294	--	1	--	US Moorings Preliminary Assessment Sampling	12/20/1994	12/20/1994
PSYDD3	Y	1	--	Portland Shipyard DD-3 Post-Dredge Data	12/15/1994	12/15/1994
WRSTRM94	Y	1	--	Characterization of Stormwater Outfalls	7/15/1994	7/19/1994
MOOR0694	Y	1,2	grain size - method unknown	US Moorings June 1994	6/14/1994	6/14/1994
WLRPT294	Y	1	--	Terminal 2, Berth 203	3/15/1994	5/20/1994
CLBC8494*	--	2	methods unknown, no COC, no laboratory QC data	Columbia River Basin Contaminant Sediment Data	1/1/1984	1/1/1994
CLBC8494*	--	2	laboratory unknown, no COC, holding time unknown, no precision and limited accuracy documentation; for most parameters - methods unknown	Columbia River Basin Contaminant Biota/Sediment Data	1/1/1984	1/1/1994
WLCT4L93	--	1,2	metals - no precision or accuracy documentation from laboratory QC data	T4 Berth 408 Maintenance Dredging	12/7/1993	12/7/1993

Table 4-1. Historical Sediment, Tissue, and Willamette River Water Chemical Investigations in Portland Harbor.

LWG Survey Code	Avocet QA or QA2	Data Useability Category	Rationale for Category 2	Survey Name	Begin Date	End Date
PSYDD4	Y	1,2	metals - no documentation of accuracy (MS, LCS, Surrogates)	Portland Shipyard DD-4 Post-Dredge Data	12/15/1992	12/15/1992
WLR0692	Y	1,2	most parameters - method unknown, no COC, holding time unknown, no precision and limited accuracy documentation from laboratory QC data	Lower Willamette River, Portland Harbor 1992	6/3/1992	6/3/1992
PSBTH311	Y	1,2	most parameters - methods unknown, no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	Port of Portland Berth 311 Dredge Data	9/9/1990	4/8/1992
MBCREOS2	--	1,2	Cr (VI) - extended holding times and low recoveries of MS/MSD and LCS	McCormick & Baxter RI Phase 2	9/1/1991	1/30/1992
MBCREOS2	--	1,2	chlorinated pesticides & PCBs - no COC, holding time unknown, no precision or accuracy documentation	McCormick & Baxter Creosoting Remedial Investigation Report	9/1/1991	1/30/1992
WLRWQH92	--	2	methods unknown, laboratory unknown, no COC, holding time unknown, no precision or accuracy documentation from laboratory QC	Willamette River Toxic Pollutants Summary	1/1/1987	1/1/1992
WLCT1L91	--	1,2	grain size - no replicates	Port of Portland 1992 Terminal 1 Sediment Characterization Results	12/17/1991	12/17/1991
MBCREOS1	--	1,2	Cr (VI) - extended holding times and low recoveries of MS/MSD and LCS	McCormick & Baxter RI Phase 1	9/21/1990	10/17/1990
COLWIL90	--	2	no COC or reference to COC procedures; holding conditions unknown	Columbia & Lower Willamette Rivers Channel Deepening Reconnaissance	5/3/1990	5/18/1990
MOOR1089	--	1,2	grain size - no COC and no replicates	US Moorings Sediment Quality Evaluation	10/12/1989	10/12/1989
WLR0789		2	methods unknown, no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	Willamette River Burlington Northern RR Bridge Sediment Quality Eval.	7/19/1989	7/19/1989
WLR0988	--	1,2	most parameters - method unknown, no COC, holding time unknown, no precision and limited accuracy documentation from laboratory QC data	Lower Willamette River (Sept. 1988)	9/7/1988	9/7/1988
WLR0488	Y	1,2	most parameters - methods unknown, no COC, holding time unknown, no precision and limited accuracy documentation from laboratory QC data	Lower Willamette River (March & April 1988)	3/30/1988	4/18/1988
WLR0388	--	2	methods unknown, no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	Broadway Bridge Evaluation of Sediment Lead Levels	3/22/1988	3/22/1988
PGERAP88	--	2	methods unknown, no COC, holding time unknown, no precision or accuracy	Remedial Action Plan , Station "L" Site, Willamette River Sediments	--	1/1/1988
MCAL1286	Y	1,2	most parameters - methods unknown, no COC, holding time unknown, no precision and limited accuracy documentation from	McCall Oil Dock 12/1986	12/15/1986	12/15/1986
MCAL0986	Y	1,2	most parameters - methods unknown, no COC, holding time unknown, no precision and limited accuracy documentation from	McCall Oil Dock 9/1986	9/18/1986	9/18/1986
WLCDRE87	--	2	methods unknown, no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	Organic Compounds in Willamette Sediments	1/1/1982	12/31/1984
WLR1083	--	2	no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data	Quality of Bottom Materials & Elutriates in the LWR, Portland Or	10/1/1983	10/1/1983
WLR0577	--	2	methods unknown, no COC, holding time unknown, no precision or accuracy	Elutriation Study of Willamette River Bottom Material and...River Water	5/17/1977	5/17/1977
WLR0277	--	2	no COC, holding time unknown, no precision or accuracy documentation from laboratory QC data; metals - methods unknown	Analyses of Bottom Materials from the Willamette River Portland Harbor	2/1/1977	2/1/1977
Tissue						

* Includes Curtis et al. 1993, Willamette River Toxics Study, Schmitt et al. 1990, Schmitt and Brumbaugh 1990

Willamette River Water

WLCMBI02	--	1,2	petroleum hydrocarbons - no precision or accuracy documentation	Surface Water, Sediment, and Groundwater Sampling Report	9/5/2002	9/26/2002
WLCRIL99	--	1	--	Ross Island Phase I	11/2/1999	4/28/2000
WLCMBJ99	--	1	--	McCormick & Baxter RI Phase 3	10/1/1999	10/1/1999
WLCWQH99	--	2	QA/QC documentation not available	Organochlorine and PAH by SPMD	8/6/1997	2/18/1998
WLCRPB95	--	1	--	Rhône-Poulenc St Helens Road Facility Q1,95	2/1/1995	2/1/1995
WLR0577	--	2	methods unknown, no COC, holding time unknown, no precision or accuracy documentation	Elutriate Study of Willamette River Bottom Material and...River Water	5/17/1977	5/17/1977

Note: EPA's STORET water quality data, DEQ's Ambient Monitoring Data (LASAR), and USGS data are not included in the database. These data are Category 2 due to lack of supporting QA/QC information.
USGS data may be reviewed in Anderson et al. 1996, Fuhrer et al. 1996, and Tetra Tech 1992.